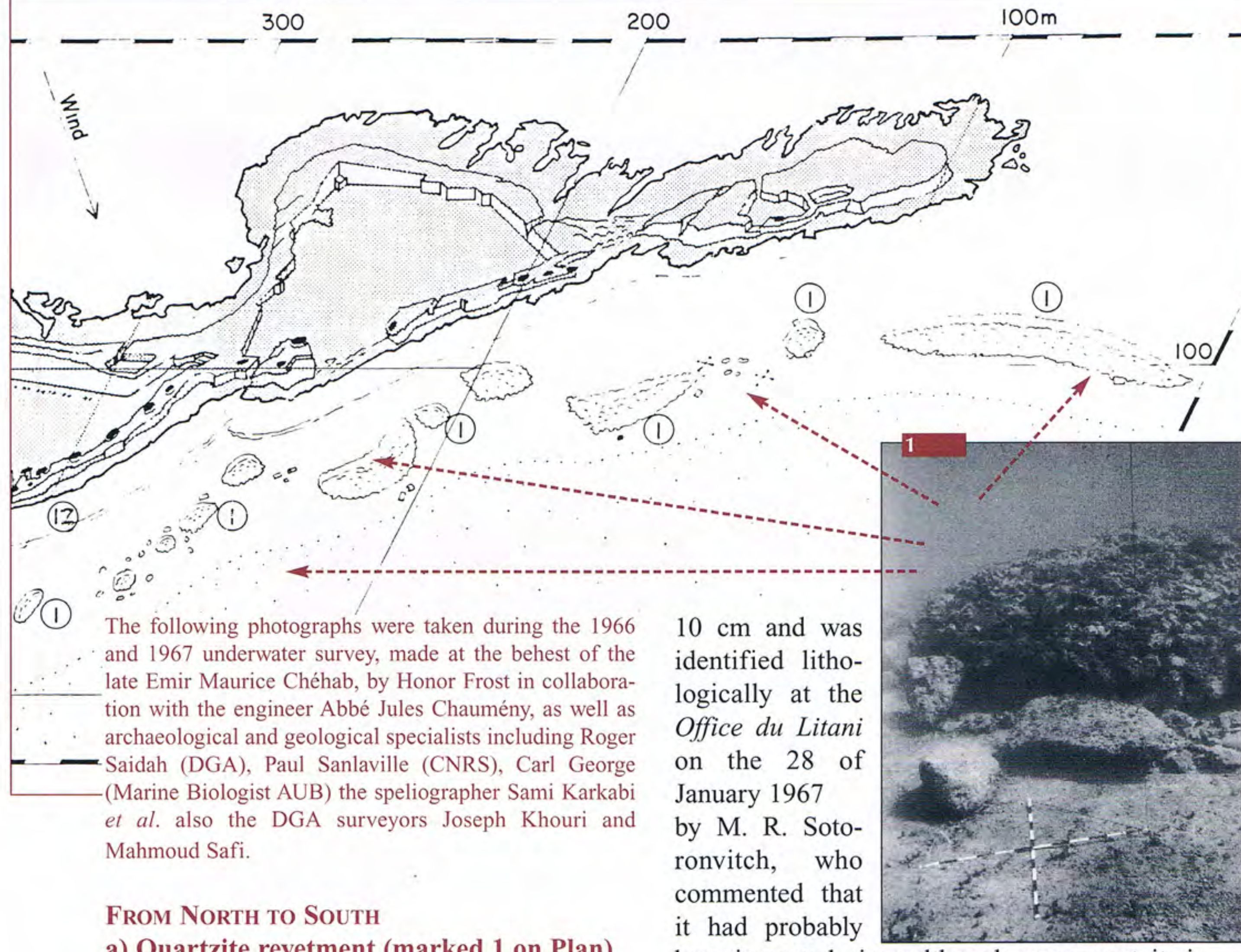
INSTALLATIONS ON THE ANCIENT OFFSHORE ANCHORAGE AT SIDON (the rock island of Zire)

Honor Frost

Recent articles in the Lebanese press (*An Nahar* 28 and 29 April 1999, and *Al Anwar* 28 April 1999) have highlighted the existence of under-water archaeological remains dating back to the period of Sidon's history.

In view of this revival of interest the *NMN* would like to take the opportunity of tying in the earlier work carried out by Honor Frost during the administration of the late Maurice Chéhab. Her results were subsequently published in 1973 (*The International Journal of Nautical Archaeology and Underwater Exploration*) The *NMN* is publishing a photographic synopsis of the remains accompanied by a personal commentary by the author herself.



The following photographs were taken during the 1966 and 1967 underwater survey, made at the behest of the late Emir Maurice Chéhab, by Honor Frost in collaboration with the engineer Abbé Jules Chauményi, as well as archaeological and geological specialists including Roger Saidah (DGA), Paul Sanlaville (CNRS), Carl George (Marine Biologist AUB) the speliographer Sami Karkabi *et al.* also the DGA surveyors Joseph Khouri and Mahmoud Safi.

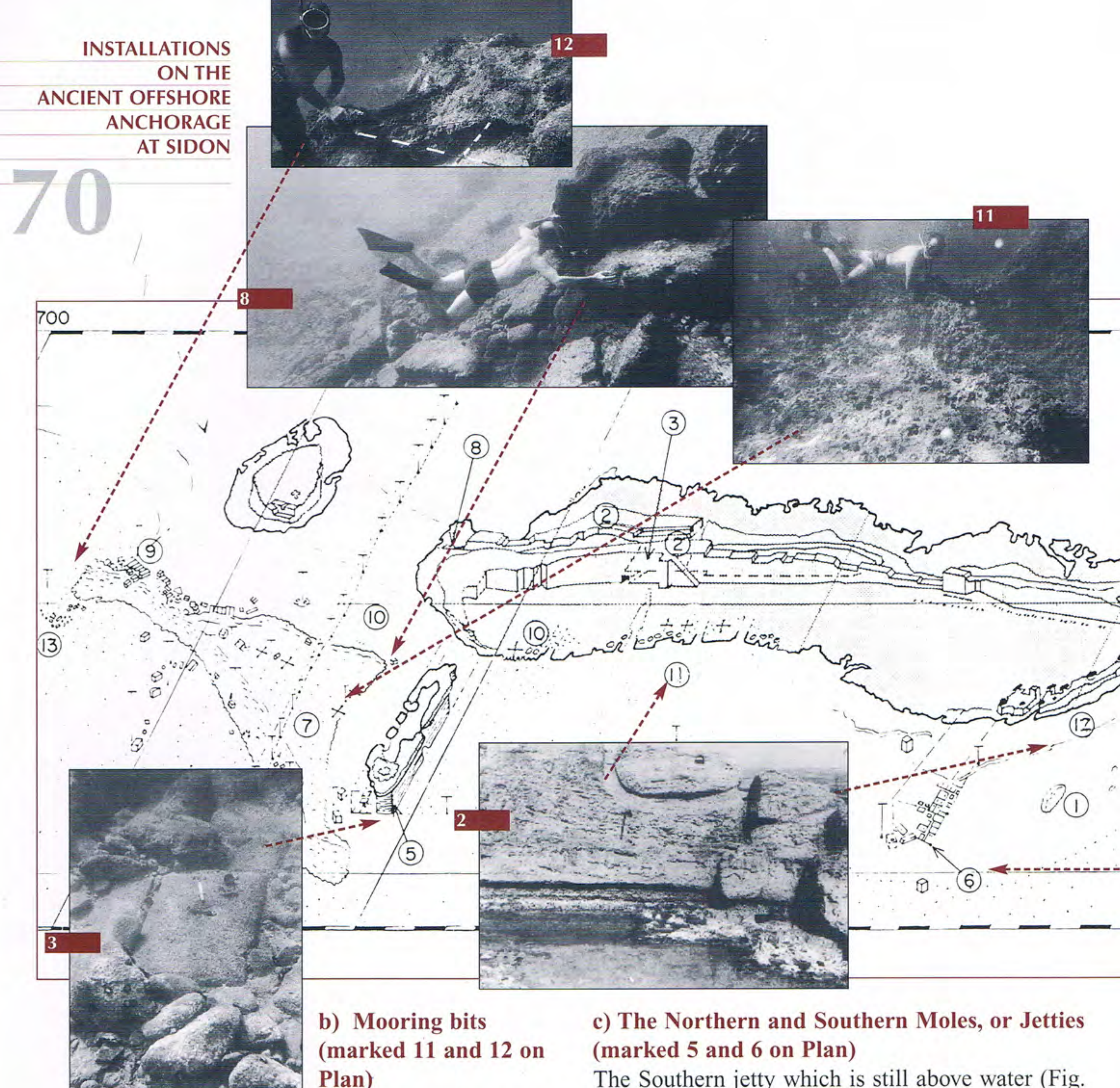
FROM NORTH TO SOUTH

a) Quartzite revetment (marked 1 on Plan)

These quartzite plaques had broken while being removed from the buildings they had covered, when the latter were being dismantled for re-use on land (probably during the Middle Ages). The useless remains were then thrown into the sea where, after some redistribution by the north-flowing current, they ended in piles (such as Fig.1) along the rocky base of the northern end of the Island.

The stone itself is now camouflaged by concretions and algae, but one intact plaque was found by S. Karkabi on 8.1.67. It measured 50 x 40 x 10 cm and was identified lithologically at the *Office du Litani* on the 28 of January 1967 by M. R. Sotoronvitch, who commented that it had probably been imported, since although some quartzite is present in Lebanon, it is embedded in basaltic marnes which are unlikely to have yielded such large plaques.

Comparable revetement plaques had just been excavated by Maurice Dunand on the Persian period forteress at Byblos; Egypt was suggested as a possible source for the stone (personally communicated).



b) Mooring bits (marked 11 and 12 on Plan)

The bits (shown in black) stand at more than a metre above present sea level so that they are still functional, whereas the bits to the south (shown in outline) are awash, so that they can no longer be used, consequently they indicate a change in sea-level and must be more ancient.

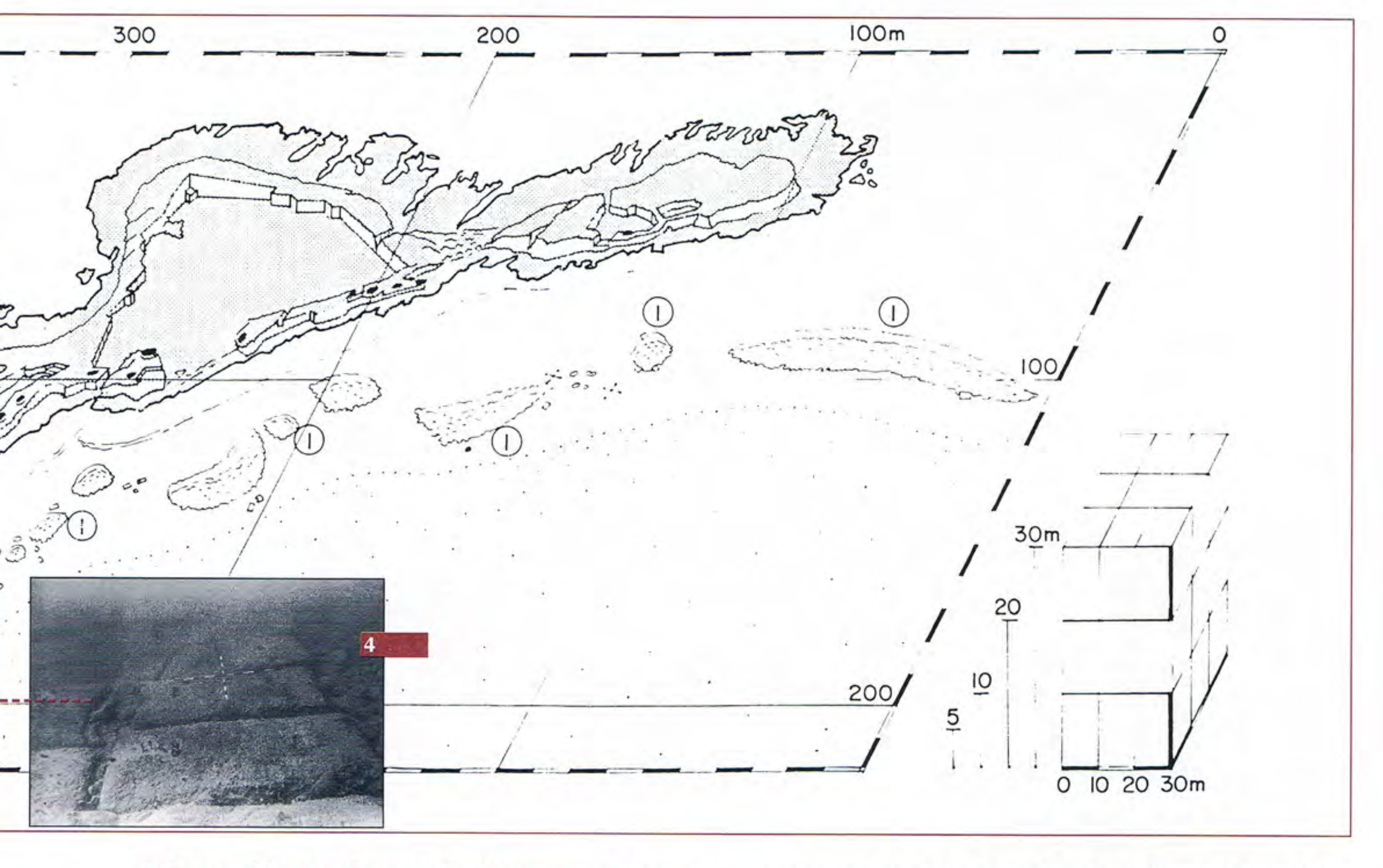
Another sea-level change is marked by the erosion notch known as "the Tabarja line" (P. Sanlaville, "Les variations holocènes du niveau de la mer au Liban", *Rev. de géog. de Lyon*, n° 45 (3) 279-304, 1970) here seen beneath one of the still usable bits, (Fig. 2), photographed from the flattened quay area on the landward side of the Island.

c) The Northern and Southern Moles, or Jetties (marked 5 and 6 on Plan)

The Southern jetty which is still above water (Fig. 7, p. 72) is mentioned by Poidebard as having traces of Roman concrete on its surface, its foundations are, however, more ancient. The submerged parts, which were examined underwater in 1966 (Fig. 3) rest on foundation blocks characterised by two lifting-holes.

Identical blocks were discovered marking the presence of a parallel jetty to the north, now dismantled and entirely submerged (Fig. 4).

Architecturally, this type of block, used in both foundation courses, is typical of the period when the Sidonians were building vessels for use by the Persian fleet in Xerxes war against Greece (480 BC).



d) Large blocks along a shelf of rock, in some 5 m of water off the Islet (9 on Plan)

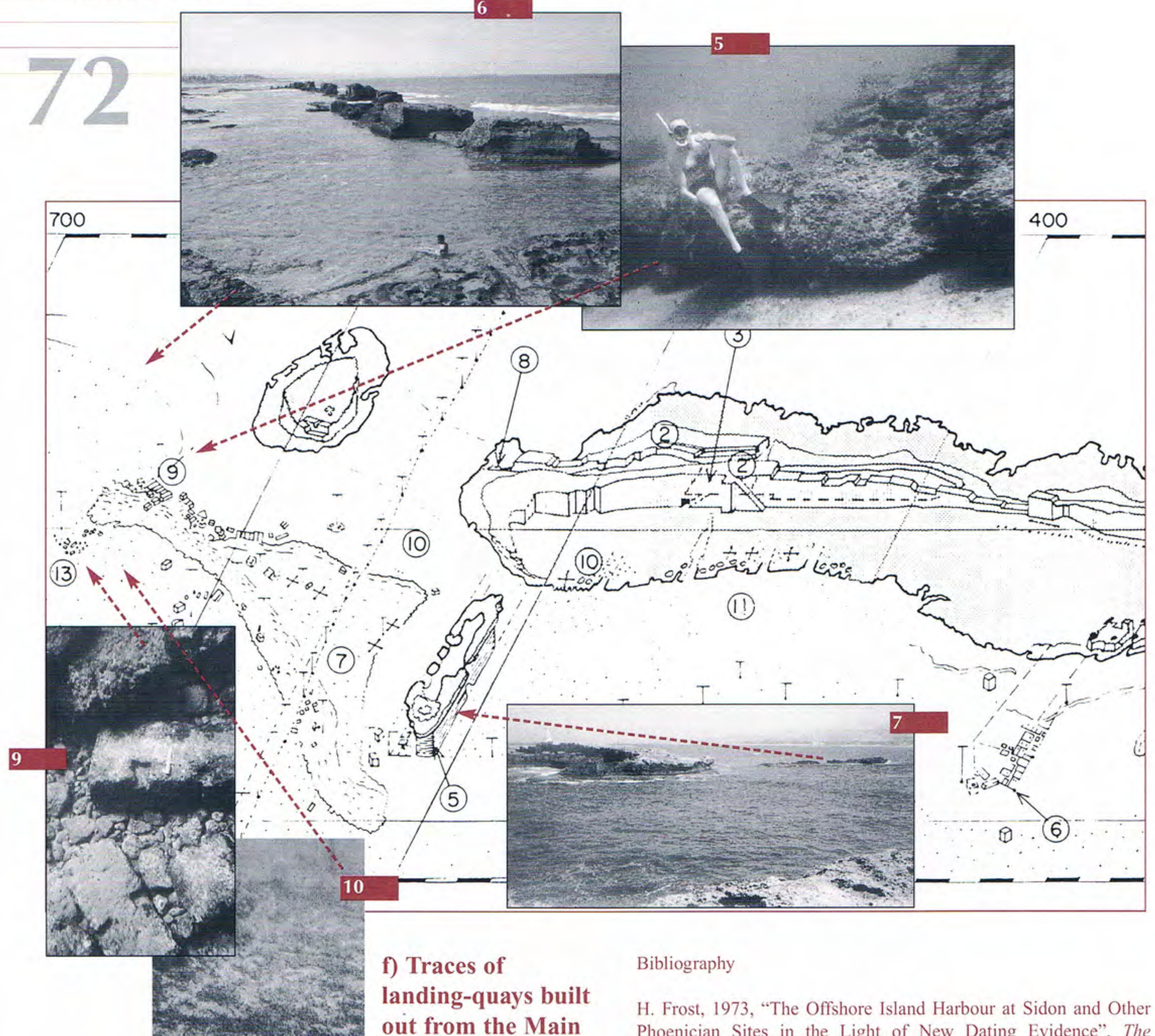
The islet which was once part of the main island, is now joined to it only by a submerged saddle of rock. Both belong to one and the same reef which continues underwater towards the tongue of rock on the shore (Poidebard's "*languette rocheuse*") that was fashioned into the southern sea-wall of the ancient harbour adjoining the town of Sidon (Fig. 6, p. 72, Poidebard 22.5.35)

Along the shelf of rock 20m. from the Islet, now at a depth of 4-5m., architectural remains take the form of an apparent alignment of blocks some 3m. long (Fig. 5, p. 72 with Dr. Carl George). Beneath them, the rock which falls steeply downwards is covered by a spill of dove-tailed blocks, column-bases etc. see below).

Fig. 7 p. 72, photographed from the Islet, near the rock-cut winch n°4 on the plan shows the relationship of this zone to the main Island as well as the remains of its southern jetty.

e) The Spill of Masonry (13 to 7 on Plan)

Beneath the 4-5 m. contour line that limits the shelf of rock joining the southern end of the main Island and the Islet, some 10. 200 m ^{3}. of masonry now lies in a tumble over the steep slope of rock running down to a depth of more than 10m. (Figs. 8-12, p. 70, 72). In volume, these remains are sufficient to have built a 9m. high wall between the Island and Islet, but in fact they represent structures of different periods (for more detailed discussion of this area see pp. 79-84 of "The Offshore Island Harbour at Sidon" by H. Frost, in *The International Journal of Nautical Archaeology* (1973) 2,1).



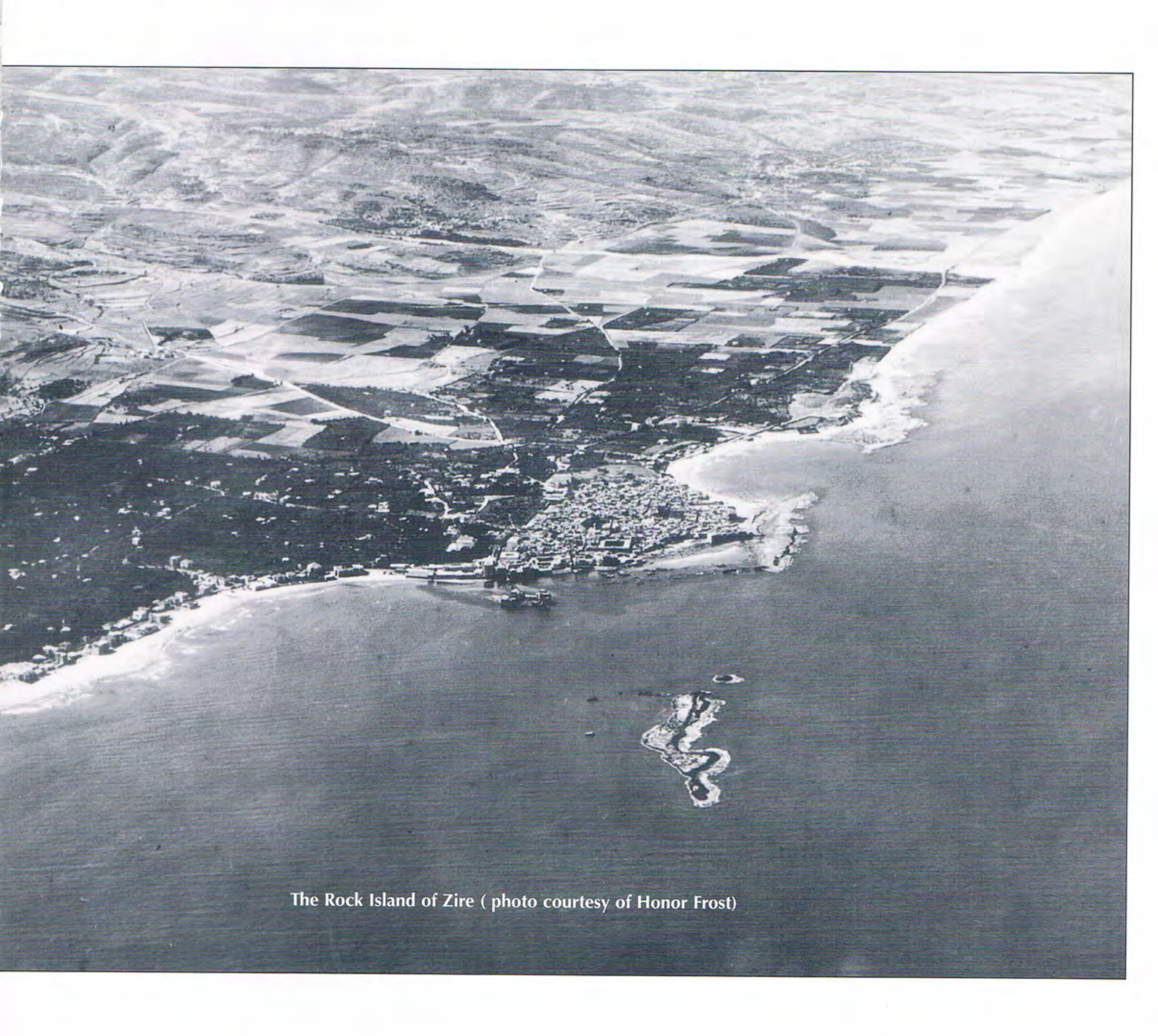
f) Traces of landing-quays built out from the Main Island (at 11 and 12 on Plan)

Mooring bits could not serve without having some form of quay in front of them; so it was no surprise to find rock cut compartments for lodging a foundation-course of large blocks in front of the mooring bits that are still above water at 12 on the plan, also traces of masonry and foundation course in front of the bits that are now awash at 11 on the plan.

Bibliography

H. Frost, 1973, "The Offshore Island Harbour at Sidon and Other Phoenician Sites in the Light of New Dating Evidence", *The International Journal of Nautical Archaeology and Underwater Exploration*, 2.1, p. 75-94.

H. Frost, 1995 "Harbour and Proto-Harbours; Early Levantine Engineering" *Proceedings of the International Symposium Cyprus and the Sea*, Nicosia 25-26 September, 1933, Nicosia, p. 1-21.



The Rock Island of Zire (photo courtesy of Honor Frost)